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[HOME](#) > [CAMPAIGNS](#) > [CALIFORNIA FRACKING](#) > [FRACKING IN CALIFORNIA: QUESTIONS AND CONCERNS](#)
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FRACKING IN CALIFORNIA: QUESTIONS AND CONCERNS

California is threatened with an impending fracking boom. But what *is* fracking, really? And what risks does it pose to the Golden State? Why do we believe fracking is simply too risky to our water, air, wildlife and climate?

Q: What is fracking?

Hydraulic fracturing, or fracking, is a method of oil and gas production that involves blasting millions of gallons of water, mixed with sand and toxic chemicals, under high pressure deep into the earth. Fracking breaks up rock formations to allow oil and gas extraction. But it can also pollute local air and water and endanger wildlife and human health.

Q: Where is fracking being done in California?

Fracking has been documented in 10 California counties — Colusa, Glenn, Kern, Los Angeles, Monterey, Sacramento, Santa Barbara, Sutter, Kings and Ventura — as well as in state waters off Los Angeles. In Kern County, California's major oil-producing county, Halliburton estimates that 50 percent to 60 percent of new oil wells are fracked. But fracking is likely being done elsewhere in California, going unmonitored and untracked by state officials.

Q: How can fracking contaminate water?

Fracking requires an enormous amount of water — up to 5 million gallons per well. Fracking routinely employs numerous toxic chemicals, including methanol, benzene, naphthalene and trimethylbenzene. It can also expose people to harm from lead, arsenic and radioactivity that are brought back to the surface with fracking flowback fluid. About 25 percent of fracking chemicals could cause cancer, according to scientists with the Endocrine Disruption Exchange, the only organization that focuses primarily on the human health and environmental problems caused by low-dose and/or ambient exposure to chemicals that interfere with development and function, called endocrine disruptors. Evidence is mounting throughout the country that these chemicals are making their way into aquifers and drinking water.

Water quality can also be threatened by methane contamination tied to drilling and the fracturing of rock formations. This problem has been highlighted by footage of people in fracked areas setting fire to methane-laced water from kitchen faucets.

Q: How can fracking contaminate air?

Fracking can release dangerous petroleum hydrocarbons, including benzene, toluene and xylene. It can also increase levels of ground-level ozone, a key risk factor for respiratory illness. Air pollution caused by fracking may contribute to health problems in people living near natural-gas drilling sites, according to a study by researchers with the Colorado School of Public Health.

Q: How does fracking worsen climate change?

Fracking often releases large amounts of methane, a highly potent greenhouse gas. Fracking also allows access to huge fossil fuel deposits once beyond the reach of drilling. In California, rising oil prices are driving up interest in fracking on the Monterey Shale, a geological formation under the San Joaquin and the Los Angeles basins that holds an estimated 15 billion barrels of recoverable shale oil. As California strives to lead the fight to avoid a climate-change catastrophe, why should we facilitate the release of carbon in billions of barrels of oil now safely sequestered in our shale formations? We shouldn't.

Q: How does fracking threaten wildlife?

Endangered species like the California condor, San Joaquin kit fox and blunt-nosed leopard lizard live in places where fracking is likely to expand. These animals can be harmed and killed in many ways by fracking and the industrial development that accompanies it.

Q: Don't state and federal laws protect our wildlife, and us, from fracking?

Fracking is poorly regulated. In 2005, Congress exempted fracking from the federal Safe Water Drinking Act, severely limiting protections for water quality.

The industry has also been free, until recently, to spew essentially unlimited air pollution during fracking. The U.S. Environmental Protection Agency just finalized new rules called the "New Source Performance Standards" under the Clean Air Act that will limit air pollutants from fracked gas wells, but the rules don't cover oil wells, don't set limits on methane release — and won't take effect until 2015.

California officials have paid little attention to the issue of fracking until recently. The Department of Conservation's Division of Oil, Gas, and Geothermal Resources acknowledges that it doesn't even monitor — let alone regulate — fracking. California regulators don't keep track of when or where fracking is being done in the state — or what chemicals are being used in the process.

As controversy has grown, state regulators have released "discussion draft" regulations — but the proposal is extremely weak. Meanwhile, state regulators are failing to enforce existing provisions of California oil and gas law and the California Environmental Quality Act that require regulation and environmental disclosure relating to fracking.

Q: But hasn't fracking been done in California for many years?

Yes, but today's fracking techniques are new and pose new dangers. Technological changes have facilitated an explosion of drilling in areas where, even a decade ago, companies couldn't recover oil and gas profitably.

Directional drilling, for example, is a new technique that has greatly expanded access to rock formations. Companies also employ high fluid volumes to fill horizontal "well bores" that sometimes extend for miles. And oil and gas producers are using new chemical concoctions collectively called "slick water" that allow injection fluid to flow rapidly enough to generate the high pressure needed to break apart rock.

As fracking methods have changed and fracking has expanded, so has the threat to public health and the environment.

Fracking photo courtesy Flickr
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